UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/545,589	04/07/2000	Scott A. Moskowitz	066603.0123	9928

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EXAMINER
LANIER, BENJAMIN E

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-52 and 59-86* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-52 and 59-86* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 14 June 2004 have been fully considered but they are

not persuasive. Applicant's argument that the Rhoads reference does not disclose

generating information describing the application of the random sequence to the content

signal is not persuasive because Figs. 9A & 9B of Rhoads give an example of what the

waveform of an industry standard noise second may look like, both in time domain and

the frequency domain, this meets the limitation of generating information describing the

application of the random sequences to the content signal and the information being of

two groups: time delimiters describing segments of the content signal; frequency

delimiters describing frequency bands of the content signal.

2.   Applicant's argument that the Rhoads reference does not disclose using a random

key is not persuasive because Rhoads discloses a method for robust information coding

wherein several random digital signals are generated to be (Fig. 2) embedded into an

input source signal that could be image, or video to produce a watermarked signal

(Abstract). There mere fact that Rhoads never refers to the random digital signals as a

"key" does not take away from the fact that Rhoads uses these random digital signals as

Applicant uses their "random key" in the claimed invention.

3.   Applicant's argument that Rhoads does not disclose generating information

describing the application of the random sequences to the content signal from a random

key is not persuasive because that is not a claimed limitation.

Contrary to Applicant's reading of Rhoads, Col. 25, lines 30-60 specifically sites:

> It is determined by the wisdom of company management that a 300 pixels per inch criteria for the embedded code signals is sufficient resolution for most applications. This means that a composite embedded code image will contain 3000 pixels by 2400 pixels to be exposed at a very low level onto each 8x10 sheet. This gives 7.2 million pixels.

This disclosure in Rhoads meets the limitation of sample window size.

4.   Applicant's argument that Rhoads does not disclose multiple watermarks is not persuasive because Rhoads discloses multiple codes that are embedded in the original signal (Col. 4, lines 15-29).

5.   Applicant's argument that Rhoads does not disclose using multiple encoding functions is not persuasive because Rhoads discloses multiple encoding functions on Col. 3, line 62 – Col. 4, line 5.

6.   Applicant's argument that Rhoads does not disclose a decode key is not persuasive because Rhoads discloses the use of key data that is used to decode the encoded signal (Col. 15, lines 41-48).

7.   Applicant's argument that Rhoads does not disclose multiple content signals is not persuasive because Rhoads discloses that the embedding system can be used for photographs, images, video, film, and other forms of video imagery (Col. 1, lines 12-19). Therefore a decision is made at some junction as to what form of video imagery is going to be encoded and further which specific image.

8.   Applicant's arguments with regards to claim 32 do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

9.   Applicant's argument that the Rhoads reference does not disclose alphanumeric

strings that are associated with software modules is not persuasive because Rhoads

discloses that the identification codes used in the data includes information that identifies

the scanner and creativity software used with the data (Col. 22, lines 52-60).

10.   In response to applicant's arguments against the references individually, one

cannot show nonobviousness by attacking references individually where the rejections

are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871

(CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 102

11.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12.   Claims 16-22, 25-29, 31-40, 42, 43, 45-52, 59-64, 66-86 are rejected under 35

U.S.C. 102(b) as being anticipated by Rhoads, U.S. Patent No. 5,748,783. Referring to

claims 16-20, 22, 25, 27, 31, 33, 34, 37, 38, 42, 43, 45-52, 59, 62-64, 66-86, Rhoads

discloses a method for robust information coding wherein several random digital signals

are generated to be (Fig. 2) embedded into an input source signal that could be image, or

video to produce a watermarked signal (Abstract), which meets the limitations generating

a random sequence of binary numbers for applying a digital watermark to a content

signal. Figs. 9A & 9B give an example of what the waveform of an industry standard

noise second may look like, both in time domain and the frequency domain, this meets

the limitation of generating information describing the application of the random sequences to the content signal and the information being of two groups: time delimiters describing segments of the content signal; frequency delimiters describing frequency bands of the content signal. Figs. 5 & 6 along with Col. 15, line 25 – Col. 16, line 65, disclose embedding is done with different signal encoding levels. Col. 25, lines 30-60 discusses the resolution parameters in the embedding process, which meets the limitation of the sample window size.

Referring to claims 21, Rhoads discloses that there can be more than one content stream samples (Col. 15, lines 54-63).

Referring to claim 26, Rhoads discloses that the content signal is processed using a root mean square function (Col. 3, lines 8-13).

Referring to claim 28, Rhoads discloses that the content can be watermarked using separate color channels of the content signal (Col. 54, lines 24-38).

Referring to claims 29, 40, 60, 61, Rhoads discloses that the system contains a memory (database) wherein the random sequences can be stored (Fig. 6).

Referring to claim 32, Rhoads discloses being able to locate the watermark information signal in the content signal and verify the watermark information as the very information that was embedded earlier (Col. 8, line, 42 – Col. 9, line 62).

Referring to claims 35, 36, 39, Rhoads discloses using alphanumeric codes in the encoding functionality (Col. 34, lines 48-67).

Claim Rejections - 35 USC § 103

13.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14.   Claims 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoads, U.S. Patent No. 5,748,783, in view of Menezes. Referring to claims 23, 24, Rhoads discloses a method for robust information coding wherein several random digital signals are generated to be (Fig. 2) embedded into an input source signal that could be image, or video to produce a watermarked signal (Abstract), which meets the limitations generating a random sequence of binary numbers for applying a digital watermark to a content signal. Figs. 9A & 9B give an example of what the waveform of an industry standard noise second may look like, both in time domain and the frequency domain, this meets the limitation of generating information describing the application of the random sequences to the content signal and the information being of two groups: time delimiters describing segments of the content signal; frequency delimiters describing frequency bands of the content signal. Figs. 5 & 6 along with Col. 15, line 25 – Col. 16, line 65, disclose embedding is done with different signal encoding levels. Col. 25, lines 30-60 discusses the resolution parameters in the embedding process, which meets the limitation of the sample window size. Rhoads does not disclose the random key generation of claim 23. Menezes discloses the generation of a random key using random strings that are hashed and run through a DES algorithm (block encryption cipher) and subsequently concatenated (Page 175, 5.16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate a random key in the manner disclosed in Menezes because algorithm 5.16 is a well-known algorithm in the art.

15.   Claims 30, 41, 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Rhoads, U.S. Patent No. 5,748,783, in view of Koopman, U.S. Patent No. 5,363,448.

Referring to claim 30, 41, 65, Rhoads discloses a method for robust information coding

wherein several random digital signals are generated to be (Fig. 2) embedded into an

input source signal that could be image, or video to produce a watermarked signal

(Abstract), which meets the limitations generating a random sequence of binary numbers

for applying a digital watermark to a content signal. Figs. 9A & 9B give an example of

what the waveform of an industry standard noise second may look like, both in time

domain and the frequency domain, this meets the limitation of generating information

describing the application of the random sequences to the content signal and the

information being of two groups: time delimiters describing segments of the content

signal; frequency delimiters describing frequency bands of the content signal. Figs. 5 & 6

along with Col. 15, line 25 – Col. 16, line 65, disclose embedding is done with different

signal encoding levels. Col. 25, lines 30-60 discusses the resolution parameters in the

embedding process, which meets the limitation of the sample window size. Rhoads does

not disclose concatenating the random sequence with signal information and then

encrypting the concatenation. Koopman discloses a random number generation process

wherein a random sequence is concatenated with certain values of an incoming signal and

subsequently encrypted (Abstract). It would have been obvious to one of ordinary skill in

the art at the time the invention was made to concatenate the signal information of

Rhoads with the random sequence and encrypt the concatenation in order to make a

security breach harder as taught in Koopman (Col. 2, lines 21-37).

Conclusion

16.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Benjamin E Lanier whose telephone number is 703-305-

7684. The examiner can normally be reached on M-Th0 7:30am-5:00pm, F 7:30am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Gilberto Barron can be reached on (703)305-1830. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR. Status

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have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Benjamin E. Lanier
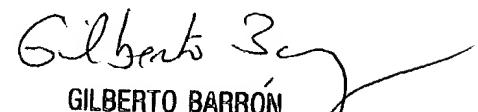
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